Implementation of the LDR prostate brachytherapy in Cantabria: Economic evaluation

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Objectives. In December 2012, a new technique for treating low-risk prostate cancer was launched at the "Hospital Universitario Marqués de Valdecilla" (HUMV): the prostate low-dose rate (LDR) brachytherapy. Up to this date, patients from Cantabria choosing this technique were derived to other Autonomous Communities. The objective of this study is to analyze the costs of the implementation of this technique and compare them to the previous situation.
Methods. We have estimated the costs of the method in collaboration with the "Subdirección de Gestión Económica y Presupuestos" of the HUMV. For the derivation costs we have taken into account travel and maintenance costs as well as the value of the amount of the prostatic brachytherapy as reflected in Annex II from the Order SSI/2687/2012.
Result. The cost of the prostate LDR brachytherapy in the HUMV is 5537€ per patient. This value is lower than that included in the Order SAN 12/2011 for other therapeutic options. The average number of patients derived to other autonomous communities is 50 per year. This has a cost of 10,883€ per patient for the Government of Cantabria.
Conclusion. The annual net profit of the implementation of the prostate LDR brachytherapy is 267.300€. The start-up of this technique has been assumed by the HUMV without any personnel increase and will prevent 50 patients per year from moving out of Cantabria to undergo this treatment.

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Interstitial HDR brachytherapy for recurrent gynecological malignancies: Analysis of toxicity

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Purpose. Evaluation of interstitial high-dose-rate brachytherapy (HDRBT) both alone and in combination with external beam radiotherapy (EBRT) recurrent gynecological malignancies in terms of toxicity.
Materials and methods. From 2007 to 2012, 25 women with a mean age of 56 years were treated with transperineal interstitial HDRBT for recurrent gynecological malignancies. Primary sites included endometrium (4), vulva (2), vagina (5), cervix (14). All patients were treated with radical intent. Three patients had received radiotherapy before (Median EQD2 [Equivalent Dose to 2 Gy per fraction] = 58.25 Gy). Twenty-two patients received EBRT with EQD2 doses between 44 and 50 Gy (median, 45 Gy) of EBRT. The HDRBT doses ranged from 3.3 to 11 Gy per fraction. Fourteen patients received 1 implant and 11 patients received 2 implants. One to six fractions per implant were delivered. The total EQD2 for HDRBT was 28 Gy (range 14–70). The total (EBRT + HDRBT) EQD2 was 72 Gy (range 35–80).
Results. Median reference volume (Vref) was 100 cm^3 (range 42–189). Median volume receiving 150% of the reference dose (V150) was 30cc (range 10–69). Median volume receiving 200% of the reference volume (V200) was 11cc (range 4–29). EQD2 doses (EBRT + HDRBT) to the hottest 1cc (D1) and 2cc (D2) in the organs at risk were as follow: median rectum D1 = 56Gy (3.8–83), D2 = 56Gy (3–79). Median bladder D1 = 56Gy (3.8–90), D2 = 55Gy (3–90). Acute grade $\geq$ 3 toxicity was seen in 1 (4%) of the 25 patients (urinary G4). Late grade $\geq$ 3 toxicity was seen in 2 (7.6%) patients (urinary G3, skin G4). No correlation was seen between dosimetric parameters and the onset of acute or cronic toxicity.
Conclusion. The use of interstitial HDRBT seems safe for the treatment of recurrent gynecological malignancies. Late toxicity is not correlated with dosimetric parameters in this series.

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Intracavitary brachytherapy in a patient diagnose of lung metastasis of an endometrial adenocarcinoma

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A 58 year old woman, diagnosed in June 2001 of an endometrial adenocarcinoma G1 stage IIA (cervical superficial) treated with surgery + external RT + endobronchial brachytherapy. In January 2007 she presents hemoptysis and occasional cough. Complementary studies were made: Chest CT: the abdominal study only highlights the presence of multiple mesenteric lymphadenopathies. MRI: upper left lobe, mass of approx. 5.5 cm, includes the upper lobe bronchus with a mass within its light. Extension studies were negative for metastases. Bronchoscopy: upper left lobe bronchus an endobronchial mass was observed. The pathologist reported of a probably metastatic adenocarcinoma compatible and consistent with endometrial origin. In July